1887

1887/88

Maryland Agricultural College
THE
1887-1888.
J. C. Malone, Artist Penman, Baltimore.

CATALOGUE

OF THE

Maryland Agricultural College.

1888

TWENTY-NINTH YEAR.

WASHINGTON:
JUDD & DETWEILER, PRINTERS.
1888.

CALENDAR FOR 1888-'89.

September 17, Monday, Examinations for admission.

September 18, Tuesday, Fall Term begins, 8.45 A. M.

Thirteen Weeks.

December 19, Wednesday, Fall Term ends, at noon.

January 2, Wednesday, Winter Term begins, 8.45 A. M.

Twelve Weeks.

March 27, Wednesday, Winter Term ends, at noon.

April 3, Wednesday, Spring Term begins, 8.45 A. M.

Eleven Weeks.

June 19, Wednesday, Graduation Day.

Spring Term ends at sunset.

June 20, Thursday, Examinations for admission to the college, the following autumn.

Board of Trustees.

On behalf of the State:

His Excellency E. E. JACKSON, *Governor.*
President of the Board.

Hon. GEORGE PETER, *President of the Senate.*

Hon. GEORGE M. UPSHUR, *Speaker of the House of Delegates.*

Hon. WM. PINKNEY WHYTE, *Attorney General.*

Hon. STEVENSON ARCHER, *State Treasurer.*

Hon. L. VICTOR BAUGHMAN, *Comptroller.*

Ex Officio, under State Law:

Hon. NORMAN J. COLMAN, *U. S. Com'r of Agriculture.*

Representing the Stockholders:

Hon. J. CARROLL WALSH.

Hon. WILMOT JOHNSON.

CHARLES B. CALVERT, Esq.

ROBERT A. DOBBIN, Esq.

ALLEN DODGE, Esq.

By Executive Appointment:

Col. F. CARROLL GOLDSBOROUGH.

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GEORGE R. WILLIS, Esq.

Dr. A. P. SHARP.

Dr. CHARLES A. WELLS.

DAVID SEIBERT, Esq.

Faculty.

HENRY E. ALVORD, C. E.,

President and Lecturer on Agriculture and History.

THOMAS N. CONRAD, A. M.,

Professor of the Principles and Practice of Agriculture.

*_____

Professor of Natural History.

J. D. HIRD, A. B.,

Professor of Chemistry.

J. A. CHAMBLISS, A. M.,

Professor of Language and Literature.

W. H. ZIMMERMAN, A. M.,

Professor of Physics and German.

J. B. STARR (U. S. N. A.),

Professor of Mathematics and Commandant.

PAUL COMBS, A. B.,

Assistant Professor of English and Latin,

W. HORACE SOPER, *Registrar.*

PROF. CHAMBLISS, *Secretary of the Faculty.*

PROF. COMBS, *Librarian.*

* Vacancy to be filled soon.

Lecturers.

F. L. KILBORNE, B. V. S.,
U. S. Bureau of Animal Industry,
Lecturer on Comparative Anatomy of Domestic Animals and Veterinary Science and Practice.

C. HART MERRIAM, M. D.,
Chief of Division of Ornithology, U. S. Department of Agriculture,
Lecturer on the Birds and Mammals of America in their Relations to Agriculture.

GEORGE P. MERRILL, M. S.,
Curator, Dept. of Lithology and Physical Geography, U. S. National Museum,
Lecturer on the Practical Aspects of Physical Geography and Geology.

WM. H. BISHOP, B. S.,
Horticulturist, Maryland Agricultural Experiment Station,
Lecturer on Horticulture.

MAJ. WM. M. KING,
Chief of Seed Division, U. S. Department of Agriculture,
Lecturer on Agricultural Seeds.

OFFICERS OF THE

MARYLAND AGRICULTURAL EXPERIMENT STATION

CONNECTED WITH THE COLLEGE.

HENRY E. ALVORD, C. E.,
Director.

HARRY J. PATTERSON,
Chemist.

WILLIAM H. BISHOP,
Horticulturist.

ALBERT I. HAYWARD,
Agriculturist.

ERNEST H. BRINKLEY,
Machinist.

ELMER M. DUNN,
Stenographer.

Catalogue of Students

FOR THE

SESSION 1887-'88.

AMMEN, ULYSSES GRANT,	Ammendale, Prince George's Co.
AMMEN, FRANCIS DUPONT,	Ammendale, Prince George's Co.
BENNETT, CLARENCE LEE,	Spencerville, Montgomery Co.
CALVERT, RICHARD CREAGH MACKUBIN,	Agricultural College.
CALVERT, GEORGE HENRY,	Agricultural College.
CHAMBLISS, SAMUEL MAULDIN,	Agricultural College.
CHASE, NEWELL DICKSON,	Baltimore City.
CONREY, THOMAS JACKSON,	Chesapeake City, Cecil Co.
COMBS, ROGER BROOKE TANEY,	Leonardtown, St. Mary's Co.
DROOP, CARL ADOLPH,	Washington, D. C.
DUVAL, ARTHUR PERRY,	Clayton, Harford Co.
FRAZIER, JAMES HAZELTINE,	St. Leonard's, Calvert Co.
GAREY, ROLAND TATE KEENE,	Denton, Caroline Co.
GRIFFITH, THOMAS DAVID,	Redland, Montgomery Co.
HAZEN, MELVIN COLVIN,	Catlett's, Fauquier Co., Va.
JOHNSON, LEONARD BARTHOLOMEW,	Morganza, St. Mary's Co.
KEECH, WILLIAM SCOTT,	Towson, Baltimore Co.
KEISTER, WILLIAM HENRY,	Baltimore.
KENNEDY, WILLIAM BYRON,	Washington, D. C.
KING, WILLIAM PERRY MOORE,	Washington, D. C.
KING, NORMAN LANDON,	Washington, D. C.

KLEMROTH, EDWARD HALSTEAD,	Washington, D. C.
MANNING, CHARLES CHENEY,	Hagerstown, Montgomery Co.
MAUSS, THEODORE FREDERICK,	Washington, D. C.
MIDDLETON, ARTHUR FULTON,	Branchville, Prince George's Co.
MIDDLETON, EDWARD WHITE,	Branchville, Prince George's Co.
MIN, CHOU HO,	Seoul, Corea.
MUNROE, BENJAMIN HOLLOWAY,	Washington, D. C.
NILES, EDWARD GRANT,	Washington, D. C.
PENN, SU,	Seoul, Corea.
PINDELL, ROBERT MONTGOMERY,	Pindell, Anne Arundel Co.
RUSSELL, ROBERT LEE,	Washington, D. C.
SAULSBURY, NEHEMIAH RIDGELY,	Ridgely, Caroline Co.
SIGLER, WILLIAM ALFRED,	Ridgely, Caroline Co.
SMITH, ROBERT ERNEST,	Ridgely, Caroline Co.
SOLES, CLARENCE ELDER,	McKeesport, Penn.
SOMERVELL, CHARLES SEWELL,	Solomon's Island, Calvert Co.
STALEY, JOHN EDDIE,	Fairfield, Illinois.
STEVENSON, HARRY BURTON,	Rider's, Baltimore Co.
TAYLOR, WILLIAM JOHN,	Washington, D. C.
TOLSON, ALBERT CARROW,	Kent Island, Queen Anne Co.
TOWERS, LAWRENCE BARTON,	Denton, Caroline Co.
WEEMS, JULIUS BUEL,	Solomon's Island, Calvert Co.
WILSON, ROBERT GORDON,	Denton, Caroline Co.
WILSON, JOHN NORMAN,	Brightseat, Prince George's Co.
WITMER, FRANK,	Hagerstown, Montgomery Co.

Graduates of 1888.

SAMUEL M. CHAMBLISS, B. A.

MELVIN C. HAZEN, B. S.

LEONARD B. JOHNSON, B. A.

WILLIAM A. SIGLER, B. S.

ROBERT E. SMITH, B. S.

ALBERT C. TOLSON, B. A.

JULIUS B. WEEMS, B. S.

History.

THE MARYLAND AGRICULTURAL COLLEGE

Was the second of its kind, still in existence, in America, to open its doors to students, and the first and only one established by the voluntary contributions of public-spirited citizens. The charter, "to establish and endow an agricultural college in the State of Maryland" * * * "in which the youthful student may especially be instructed in those arts and sciences indispensable to successful agricultural pursuits," was granted in March, 1856, being more than six years before the first Federal legislation for a similar purpose.

As a foundation, about five hundred liberal residents of Maryland, most of them directly interested in the agricultural property and progress of the State, together with a few non-residents, subscribed the amount necessary to purchase the farm and erect the first buildings. Subsequently the State made special appropriations to the College, which are still continued, and this institution receives the benefits of the Congressional land grant to Maryland, under the act of July 2d, 1862; also the appropriations under the act of Congress of March 2d, 1887.

Location.

THE COLLEGE is located three-fourths of a mile from College Station, Prince George's Co., Md., on the Washington Branch of the Baltimore and Ohio Railroad. Numerous trains daily afford easy communication with all points. College Hill, on which stand the principal college buildings, is a beautiful eminence, overlooking wide stretches of country. The surrounding farm embraces two hundred and eighty-six acres, forty of which are wood-

land, and a large part of the remainder is under cultivation. The conformation of the farm and diversity of its soil offer excellent opportunities for varied agricultural operations, and this, together with the beauty and healthfulness of the site, admirably adapts the location to the purposes of an educational institution of this character. The city of Washington is only eight miles distant; this proximity to the National Capital gives the College exceptional advantages in the valuable aid which it derives from the libraries and scientific collections of the different Departments of the Government.

Post Office.

THE post-office address is Agricultural College, Prince George's Co., Md. Telegrams and express matter should be sent to College Station (B. and O. R. R.).

Buildings.

THE main building, standing in the midst of a fine grove of forest trees, is a massive brick structure, of six stories, one hundred and twenty feet long and fifty-four feet wide. It possesses accommodations for one hundred and fifty students, apartments for professors, class-rooms, chapel, museum, library, reading room, armory, parlors, dining room, and the necessary offices. The dormitories are spacious, well ventilated, and heated by steam. Well-water, forced to tanks in the attic, is supplied to the several floors by a system of pipes. Careful provision is made for the maintenance of the proper sanitary condition of the building.

The Chemical Laboratory, a separate brick structure close to the main building, has been recently thoroughly refitted. It is furnished with water, steam, and gas, and with all the apparatus of a well-appointed laboratory.

The Gymnasium, another detached building, erected for the purpose, affords opportunity for healthful exercise and muscular development.

The President's residence occupies a fine site a few hundred yards from the college. The barns, stables, and other farm buildings are adequate and convenient.

The Agricultural Experiment Station has its offices and working quarters in the substantial brick structures formerly known as "Rossburg," now completely renovated, and situated about a hundred rods from the college buildings, in the midst of the fields especially assigned to experiment purposes.

Departments of Study.

THE Act of Congress creating the endowment of State Agricultural Colleges was passed July 2, 1862, and is entitled "An act granting public lands to the several States and Territories which may provide colleges for the benefit of agriculture and the mechanic arts." The aims of a college thus originated are defined as follows:

"Its leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the Legislatures of the States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."

In accordance with this "act" and corresponding legislation of the State of Maryland, the trustees of this College recognize their obligation to provide here, first of all, for thorough instruction in "those branches of learning which are related to agriculture and the mechanic arts." They have not yet been able fully to realize their hopes and purposes, but they are assured that the plans they have now devised will effect a steady advance in this direction. The members of the Faculty are men chosen with special reference to their fitness for duties in an institution of the character above indicated. The course of study has been changed in certain important particulars to adapt it more perfectly to the "leading object" of the College, and so far as means are available all appliances which are correspondingly called for will be provided. It is not intended that the time of the students shall be occupied with the ordinary

labors of the farm and workshop, but that, accompanied by their instructors, they shall spend certain fixed portions of the day, at suitable seasons, in the fields or stables, observing and performing such operations as may illustrate the teachings of the class-room in the department of agriculture and instruct in their proper execution.

But while these branches of learning will be thus strongly emphasized, "other scientific and classical studies" will be included in the course as heretofore, so that a "liberal" as well as a "practical education" may be within the reach of the "industrial classes" to fit them for "the several pursuits and professions in life." Instruction in military tactics also will be given, as by law required.

Agriculture.

INSTRUCTION in agriculture, scientific in principle and practical in application, claims the greatest possible attention and should command the highest intelligence. In all its varied features, the cultivation of the soil interests the million; not only those whose efforts are solely directed towards obtaining a livelihood by farming and gardening, but the retired merchant and professional man, the inheritor of large estates that have been impoverished by undue usage, and the enthusiastic lover of nature from every pursuit of life. Enlightened agriculture, pursued with the purpose of economical production, and illustrating the benefits derived from experiments in the field and in the laboratory, must result in improvement, must direct the novice or the fogy to more remunerative methods, must enlarge the return while it lessens the area and expenditure, and must exemplify the adage of making "two blades of grass grow where one grew before."

To the end, therefore, of preparing the youth of to-day for the improvement of what may be their patrimony to-morrow, or the management of lands committed to their care, agricultural instruction, combining theory and practice, will henceforth be the first

consideration in the work of this College. The origin, composition, and characteristics of soils, their management and improvement; the nature and growth of agricultural plants, cultivation which is beneficial or hurtful, protection from vegetable diseases and injurious insects; manures and their application; the construction, purpose, and proper use of the mechanical appliances for the farm; the selection, care, and breeding of domestic animals and the treatment of animal products; the problem of farm labor; all these, as well as others, are studies which lead to success and the attainment of a high position in enlightened agriculture.

In the effort to realize these aims and purposes, the laboratory, museum, library, stable, and fields are used to supplement work in the class and lecture room. Practical illustration or object lessons will go hand in hand with theory and the teachings of science. The Agricultural Experiment Station provided for this State by the act of Congress approved March 2d, 1887, has been established upon the college farm, and although a distinct branch of the institution, it adds greatly to the facilities for agricultural instruction. Finely equipped, with a corps of scientific workers, the operations of the station, in original investigations and practical tests and experiments, will prove interesting and instructive alike to the students of the college and to all engaged in the progress of agricultural and horticultural affairs.

In short, the Maryland Agricultural College will be conducted in accordance with its name and original object, as described in its comprehensive charter, and the subsequent legislation, both State and National, which so clearly defines its special purpose.

Natural History.

THE various branches of study which are embraced in this general title are of the first importance to one who is constantly subjected to the laws of nature in the operations of farm and garden. Among these branches are climatology, geology, mineralogy, botany, zoology and comparative anatomy, and entomology. It is the purpose to teach these according to the latest researches of modern science and by the most approved and practical methods.

The unsurpassed collections in Washington, at the Smithsonian Institution, the National Museum, and the Department of Agriculture, all easily accessible, are of the highest value in connection with the instruction in this department.

Chemistry.

THE CHEMICAL DEPARTMENT has been thoroughly reorganized, and equipped as never before in its history. Its new quarters afford excellent facilities for practical work. Each student is provided with a laboratory bench, together with all needful apparatus and re-agents, for the condition of which he is held responsible.

Inorganic Chemistry.—The facts and principles of general chemistry must be mainly acquired in the study of the non-metallic elements; hence special attention is paid to this introductory work before proceeding with the no less important study of the metals and their application in art and industry. Daily experiments illustrate the subjects under discussion.

Analysis.—Qualitative analysis of both simple and mixed substances is taken up during the Sophomore year, and blow-pipe analysis with determination of minerals and ores at the beginning of the Junior year. Quantitative analysis, both gravimetric and

volumetric, is also included in the Junior year. Agricultural chemical analysis is made an important feature of the course, and comprises the analysis of commercial fertilizers, fodders, feed-stuffs, water, milk; also the detection of adulteration in farm and manufactured products, and the examination of soils.

Organic Chemistry.—A few series are studied exhaustively, a general survey of the field following, special attention being paid to compounds of interest on the farm. The laboratory work of the Senior year consists of the practical application of chemistry to agriculture.

Mathematics.

The study of Mathematics is pursued only so far as the distinctive aims of this institution require, the course conforming in general to that adopted in the most approved Agricultural Colleges. The Freshman year begins with a review of Arithmetic, special attention being given to its application to the daily affairs of life. This is accompanied by a brief course in single-entry book-keeping. Algebra is then taken up and completed by the middle of the Sophomore year. Geometry, Mensuration, Trigonometry, and Surveying follow in the Sophomore and Junior years. The field work in surveying will afford much practice in chain and compass surveying, transit and theodolite surveying, and leveling. This practice is continued in the Senior year with application in running old farm lines, mapping farms, dividing lands, highway surveying and road-making, with cuts and fills, draining and water works.

Drawing is, for the present, assigned to this department, and extends through three years, being taught in its practical rather than merely artistic aspects.

Physics and Mechanics.

THE course of instruction in Physics and Mechanics aims to make clearly understood the principles of the different mechanical powers and the physical forces of nature and their industrial applications.

The method of instruction is by means of recitations and lectures accompanied by experimental demonstrations.

The students of the senior class are required to take notes of the lectures and experiments and illustrate them by suitable drawings. These notes are examined at intervals and marked according to their value.

The course embraces the general properties of matter; laws of falling bodies; hydrostatics, hydro-dynamics, and pneumatics; also the principles of sound, light, heat, electricity, magnetism, and electro-magnetism.

Great care is taken throughout the course to array the various branches of science in natural groupings, in order to emphasize their intimate relations.

Language and Literature.

ENGLISH AND LATIN.

AN ACCURATE and a refined use of the mother-tongue is the chief aim of the course in the department of English. In the earlier stages there is persistent drill in analysis of sentences, in word-building and derivation, and in the elements of style, with constant practice in expression, oral and written. The history of the language is then taken up, with respect to its vocabulary, grammar, and different periods. This is followed by the historical and critical study of English literature.

To this department have been assigned the related subjects of Logic, Mental Science, Constitutional History, and Political Economy; most of these in the Senior year.

Throughout the course the text-books used are supplemented by conversational lectures and parallel readings.

The study of Latin, which has hitherto been optional, will be required in the Freshman year at least, and may be required a second year. This change has been judged necessary to facilitate the use of the Latin nomenclature of sciences directly tributary to agriculture and the industrial arts. Further pursuit of this language is not provided for in the course, but students who have time and the disposition to continue the study will be encouraged and assisted to do so.

German.

OF MODERN languages German only is taught and required. This study will be pursued by daily recitations through the Sophomore and Junior years. While the ability to read the language will be sought as the end of main importance, the course will be sufficiently extended to admit of attention being paid to pronunciation and ordinary conversation.

Military.

THE ACT OF CONGRESS which contributed the greater part of the endowment of the College was accepted by the State under conditions which make instruction in military tactics imperative. The students are, therefore, organized as a corps of cadets, under the commandant, who is a member of the faculty, are uniformed, and every one, unless physically debarred, is required to attend such exercises as are prescribed and subjected to military discipline to a certain degree.

These exercises are believed to be decidedly beneficial and the tactical instruction is thoroughly given. The drills, which occupy three or four hours a week, furnish excellent physical culture,

insuring regular and healthful exercise at all seasons and out of doors whenever possible. Neatness in dress, graceful carriage of the body, and dignified bearing, are secured by the drill, and habits are acquired of prompt obedience and self-control and the power to command.

The excellence of the instruction in this department was shown in May, 1886, when, at the National Drill at Washington, the Corps of Maryland Agricultural Cadets received the second cadet prize in the competitive drill.

The members of the upper classes who show attention to duty and proficiency in drill are detailed in rotation to perform the duties of commissioned and non-commissioned officers of the company and battalion.

Every student is required to provide himself with the full uniform adopted for this department before the close of the term in which he enters the college, and thereafter to keep the same in order and wear it upon all drills and stated military exercises. The uniform is a neat suit of cadet gray, suitable for all occasions, and, at the reasonable prices which the institution is able to obtain by contract, it forms an extremely economical dress.

The military system is also applied to the discipline of the students while in and about the buildings, and where deemed necessary this discipline may be extended to apply to individuals or the entire body of students at all times and places. The dormitories, as well as the arms, equipments, and clothing of the cadets, are regularly inspected, and neatness and order are enforced.

While this department is administered to honestly meet the requirements of law and to benefit the individual and the College, it is not permitted to interfere with other educational interests and duties, or encroach upon reasonable periods of recreation.

Course of Study.

Freshman Year.

Agriculture.—History, breeding and care of farm stock; Dairying.
Natural History.—Climatology and Botany.
Language.—English, analysis and construction; History.
Latin begun and continued through the year.
Mathematics.—Arithmetic reviewed; Algebra begun.
Book-keeping.—Single Entry, with practice in farm accounts and business forms.

Sophomore Year.

Agriculture.—Anatomy and Physiology of Animals and Plants.
Natural History.—Geology and Mineralogy.
Chemistry.—Begun and continued through the year.
Language.—English, History of Language, Expression and Style.
Latin continued; German begun.
Mathematics.—Algebra completed; Geometry.
Drawing.—Freehand and Geometrical.

Junior Year.

Agriculture.—Study of the Atmosphere, Soils, and Plant Growth, with lectures and field notes.
Natural History.—Zoology and Entomology.
Chemistry.—Laboratory work through the year.
Language.—English Literature and Logic; German, second year.
Mathematics.—Trigonometry, Mensuration, and Surveying.
Physics.—Mechanics and Physics through the year.
Drawing —Mechanical and Topographical.

Senior Year.

Agriculture.—Crops, general and special; Manures and Fertilizers; Forage and Feeding; Farm Mechanics; Lectures and Field Notes.

Chemistry.—Laboratory Practice in Agricultural Analyses.

Language.—Mental and Moral Science; Debates; Political Economy and Constitutional History.

Mathematics.—Practice in Surveying, Road-Making, Drainage, and Map Work.

Physics.—Lectures, with notes and examinations.

Lectures.—On Comparative Anatomy, Veterinary Science and practice, and other topics.

Military drill and exercises in Composition and Elocution throughout the course, as directed.

Admission.

CANDIDATES for admission to the Freshman class are examined orally and in writing upon the common English branches, namely, reading, spelling, elements of English grammar, geography, common-school arithmetic, and history of the United States. These examinations must be satisfactorily passed in order to entitle one to full standing in the Freshman class, and give assurance of subsequent progress.

The public educational facilities are believed to be such, in all parts of the State, as to render it unnecessary for this College to maintain a preparatory department, but if students present themselves who, for lack of proper opportunities, are imperfectly prepared, yet show willingness and ability to do extra work, they will be admitted, conditionally, upon passing a reasonable part of the entrance examinations, and an instructor will be assigned to assist them in meeting the conditions and acquiring a full standing in their class.

Applicants for admission to the higher classes must pass the entrance examinations and also be successfully examined on all of the studies pursued by the classes they wish to enter or on branches equivalent thereto.

No one is advised to apply until fifteen years of age, although physical and intellectual development are regarded as more important and will be considered rather than age. Every applicant must furnish a certificate of good character satisfactory to the Faculty. Candidates are advised to provide themselves, in all cases, with certificates of their standing in the school last attended and present these certificates to the examiners. Previous good scholarship will

be considered and given due weight at entrance examinations, and a certificate of proficiency in any subject will be accepted instead of an examination, if granted by a college authorized to confer degrees or by a high school in Maryland or Washington, D. C.

As stated in the Calendar, the regular examinations for admission are held at the College on the day following the annual Graduation Day, in June, and in September on the day next preceding that for the opening of the fall term of the institution, beginning at nine o'clock A. M. on these days; but candidates may be examined and admitted at any other time in the year.

Degrees.

THOSE who complete the prescribed course of study and maintain the required standard of scholarship will receive the degree of Bachelor of Science, the diploma being signed by the Governor of Maryland, who is *ex-officio* president of the corporation.

Tuition and Expenses.

TUITION is free to all students whose parents are residents of the State of Maryland or who are such residents themselves, if their parents are not living. To cover the necessary expenses of the year at College, clothing excepted, a single charge is made of one hundred and eighty dollars ($180). This includes board, furnished room, heat, lights, washing, the necessary text-books, and a fair allowance of stationery.

An additional charge of sixty dollars ($60) will be made for any student a resident of another State or the District of Columbia.

Students whose homes are in the neighborhood will be allowed to attend the college exercises daily upon payment of forty dollars ($40) per annum. They will be assigned rooms to occupy during study

hours, be supplied all necessary books, and will be on a par with other students in connection with all college duties and exercises.

Fees.—Every student at the beginning of the college year must, in addition to other payments, make a deposit of five dollars ($5) with the Registrar as a guarantee fund. This will be placed to his credit, and against it will be charged such temporary medical services as may seem necessary and, at its cost, all damage or loss of College property during the year for which the student admits his responsibility and his *pro rata* share of all such damages and losses not assumed by individuals. During the Junior and Senior years this fee will be doubled, to cover the special breakage and consumption of materials in the chemical laboratory. At the end of each collegiate year the balance due any student on account of fees will be refunded by the Registrar; and if at any time this fee credit is exhausted the sum deposited at the beginning of the year must be promptly replaced.

No other fees or extra charges will be made by the College, except in cases of serious sickness or under extraordinary circumstances.

Payments.

ALL CHARGES and fees are due and must be paid in advance. For convenience of patrons the payments are arranged as follows:

On the day of entrance one-fourth of the annual charge, and all the stated fees; and one-fourth of the annual charge, respectively, on the 1st day of December, the 15th day of February, and the 15th day of April.

The low rates at which students are received can only be maintained by purchasing all supplies at wholesale, for cash. This is only possible when *all* payments are made in advance. The Registrar is specially charged with the duty of making prompt collections, and annoyance to all parties will be avoided by a careful observance of all obligations in accordance with the terms above stated.

Uniforms, &c.

THE UNIFORM worn by the students during all military exercises is of gray cloth of an established grade, cut according to the pattern adopted at the United States Military Academy. This consists of a dress coat, pair of pants, cap, and gloves, costing something less than twenty-five dollars ($25). Those who desire can obtain a fatigue suit, in addition, for about ten dollars ($10), but this is not required. To insure uniformity in quality and pattern and maintain low rates, the military suits must be purchased from the contractor with the College and paid for in cash, on delivery. Every student must provide himself with the regulation garments before the close of the College term in which he enters, and must thereafter keep uniformed to the satisfaction of the commandant.

Each bed-room is furnished with two single beds, a clothes-press, a table, a washstand, with bowl, pitcher, &c., and two chairs. All articles of bedding, except the mattress, must be furnished by the student; also a study lamp, towels, table-napkins, clothes-bag, and proper toilet articles, all to be marked with the owner's name.

Discipline and Regulations.

IT IS expected that all students attending this College will have reached an age when their habits are so fixed and their characters so matured as to cause them to appreciate the value of their time and the opportunities afforded them at this institution. Without multiplying rules and regulations, they will, from the day of entrance, be placed upon their honor to contribute to the general good order and studiousness of the College, to promptly and cheerfully obey all instructions they may receive from its officers, pay proper regard to the care of its property, refrain from all acts calculated to disturb the comfort and work of their fellow-students, and in personal habits, conversation, and conduct, at all times and places, to act as gentlemen.

In general, exemplary deportment, attention to duties, and the maintenance of good scholastic standing will be required of all.

Should there be those who cannot be allowed full privileges because of immaturity and thoughtlessness, rather than deliberate misconduct or intentional neglect, they will be assigned quarters in a special part of the building and placed more or less completely under military discipline, as circumstances may require.

Such regulations as may be necessary will be promulgated from time to time so as to be fully understood, and they must be observed and complied with by all.

Discipline, when required, will be administered in a progressive manner by admonition, formal warning, notice to parents or guardians, and strict probation, but the Faculty may at any time, when such action is in the interest of the individual or the College, summarily suspend, dismiss, or expel any student for cause.

Religious Services.

ALL STUDENTS are required to attend the daily morning prayers and public worship on Sunday in the College Chapel. Arrangements will be made for the Sunday services to be conducted by clergymen of different denominations. Upon request of their parents students will be permitted to attend religious services elsewhere in the neighborhood.

Prizes.

A prize of twenty dollars ($20) is offered by the President of the Faculty, to be awarded, in money or a medal, to that member of the Senior class who sustains throughout the year, including examinations, the best record in the department of agricultural studies.

Other prizes are being arranged and will be duly announced.

The Mercer Literary Society

HOLDS weekly meetings, affording its members excellent opportunities for practice in oratory and debate. The advantages of this sort of training are not to be overlooked in estimating College life. Occasional public meetings are held. The Society library, which is open to members, is especially rich in history, biography, and the works of great statesmen.

Reading-Room Association.

THE students, assisted by the Faculty, support a reading room, which is amply supplied with newspapers, magazines, and reviews. At present forty-seven daily, weekly, and monthly publications are regularly placed on file, including leading papers of Baltimore, Washington, New York, Louisville, Atlanta, and other cities; Harper's Monthly and Weekly, The Century, The Forum, North American Review, Scientific American and Supplement, Popular Science Monthly, Frank Leslie's Golden Days, Youth's Companion, etc.

For the following magazines and papers the Association is indebted to the politeness of the publishers: Breeders' Journal, Gardeners' Monthly, Industrialist, American Farmer, Maryland Farmer, Massachusetts Plowman, Anne Arundel Advertiser, Centerville Record, Cambridge Chronicle, Democrat and News, Denton Journal, Federalsburg Courier, Free Quill, Hartford Democrat, Marlboro Gazette, Peninsula Farmer, Prince George's Enquirer, Republican Citizen, Travelers' Record, Appleton's Bulletin, Patent Office Gazette.

Libraries.

THE Library of the College, which is mainly for reference in the Departments of Agriculture and General Science, contains several hundred valuable books. The library of the Literary Society has probably fifteen hundred volumes, and the private libraries of the professors as many more. All of these are accessible to students under proper conditions. The great libraries of the National Capital also are within almost as easy reach as if the College were located in Washington.

Museum.

IN THE Museum is an excellent study collection of minerals and ores, well classified, and thus of important service as a guide in the science of mineralogy.

For use in the study of crystallography there are models illustrating all the systems of crystallization, with the most important modifications of typical forms.

A small, but by no means unimportant, collection is one presented to the College by the United States Department of Agriculture, containing specimens, labeled and indexed, of more than four hundred varieties of woods grown in the United States.

Worthy of notice is the large number of models of agricultural machinery furnished through the courtesy of the United States Patent Office. Other aids to the study of science included in the Museum are an herbarium, illustrating the flora of Maryland and the District of Columbia; also a good collection of physiological charts and anatomical specimens.

REPORT OF THE COLLEGE PRESIDENT

AT A SPECIAL TRUSTEE MEETING,

MAY 16, 1888.

To the Honorable Board of Trustees of the Maryland Agricultural College.

GENTLEMEN: The first of the College by-laws requires a regular quarterly meeting of the Board of Trustees, at the college, on the second Friday in June, September, December, and March. The twentieth by-law requires a report to the Board, at every quarterly meeting, by the College President, upon the general condition of the institution, with "suggestions for promoting its welfare and usefulness."

The honorable President of the Board has wisely determined to call together the gentlemen who have never met before in this capacity, as a special meeting in anticipation of the regular meeting of the 8th June, and in the call makes the first business the consideration of the special report, which I now have the honor to respectfully submit.

My own brief connection with the institution would hardly warrant my going into much detail, and it is not probable that this meeting will desire to consider minor matters. I therefore propose to ask your attention only to a few general but important points to the policy of the institution, with some corresponding suggestions, which it seems to me to be my duty to present for your consideration.

There is no intention on my part to reflect in the least degree upon the official action of the Board of Trustees or its executive officers in the past, but however earnest and efficient their efforts, we cannot afford to ignore the fact of popular criticism and dissatisfaction with the college and its administration, expressed privately, through the public press, in legislative halls, and in other ways. It is undoubtedly true that because of these criticisms this Board assembles to-day, in its present form, to meet the responsibilities devolving upon it, and equally true that the intention of a reorganization, if not something of a revolution, in the affairs of the institution, accounts for my meeting with you to-day as the chief executive officer of the college and station.

It seems to me the wisest course to squarely face these facts as we find them and seriously to consider wherein criticism has been well founded and what practical measures of improvement or change may be judiciously made to meet popular expectations, restore public confidence, and ensure the future prosperity of the institution. In considering the various criticisms which have come to my knowledge I have been impressed with the very uniform approbation given the original scheme for the college, and it has only been when the college has been conducted in a manner actually, or supposed to be, inconsistent with its charter, that criticisms and complaint have arisen. No one who now examines the organic act of this institution with an inate feeling favorable to education, combining theory, investigation, and practice, as essential to profitable and progressive agriculture, can fail to recognize the public spirit and far-sighted wisdom of its founders. It was conceived and brought into active life well in advance of the times, and the unhappy public disturbances of its earlier years and the fact that the country was not ready for its ideal for years afterwards, seems to me to sufficiently account for any failure on the part of the institution to meet public expectations. Let us hope that the times are now more propitious for its successful conduct. It really appears to be only necessary that this Board and its executive officers should conform to the comprehensive and liberal provisions of its truly remarkable charter, to make the institution popular, prosperous, and a power for good in this State.

The complaints and criticisms of the college may be conveniently grouped and considered under three heads—first, as relates to its farm, its practical and experimental work, or what we may call its visible agricultural features; second, as relates to the form and character of its educational facilities; and, third, as relates to its property, the conduct of its financial affairs and a proper accounting therefor. The farm was originally well adapted by its variety of contour, exposure, and soil, to varied practical operations, and, although it must be admitted that it has not been systematically conducted and is in part worn, it still retains many of its attractive features and is quite capable of recuperation, although the process may be slow. The history of the farm for the past few years has been the natural result of the reduced income and general impoverishment of the institution. I trust the time has come when a reasonable amount may be annually set apart for the current expenses and gradual improvement of the estate, and the judicious administration of the farm upon a well-devised system may lead to its steady appreciation in appearance and value, and enable it to materially contribute to the prosperity of the institution. The experimental feature of the farm was fully recognized as an important factor in the charter, and for a number of years experiments were systematically conducted, the records of which in detail are unfortunately imperfect. But experimental farming is an expensive

business, a constant outlay of money, with information only in return, and the always limited income of the institution precluded the possibility of development in this direction in years past. Through the wise munificence of the National Congress this imimportant branch of the work of the institution is now liberally provided for, for the present. A fixed income of $15,000 a year insures the establishment and satisfactory maintenance upon the college estate of the Maryland Agricultural Experiment Station.

As the first money for this new department did not become available till the second day of May, the work of the present agricultural year will be largely abridged and necessarily devoted in the main to preparing for future work. To this experiment station, being entirely new and requiring many details of organization and preparation, I expect to devote the greater part of my time, personally, the present year. In time, I have no doubt of making it a place of very wide-spread interest and direct practical value to those interested in the agriculture and horticulture of Maryland. My great fear is that too much will be expected in the way of results in too short a time. In agricultural experimentation time is the most important factor. In this work I must rely upon patience on your part and that of the people you represent; all the aid and support you can possibly give me will be required in the successful management of the experiment station. You will see the crude state in which it to-day appears. Work is being pushed as fast as practical. I earnestly solicit your advice and co-operation in the business conduct of the station and the general lines of work which should be undertaken and all possible freedom in matters of minor organization and administration. The general conduct of the college farm and the operation of the experiment station, although necessarily distinct, financially, are so closely related that it seems to be proper that they should receive the attention of this Board in conjunction.

Whatever doubts may have existed on this point at times heretofore, I trust it is a fully established fact that as a college this is and is to be, as its name implies, and State charter and Federal endowment provide—a technical school of agriculture. With the limited income of the college, present and prospective, it is manifest that we shall do well if we succeed in carrying on creditably one line of educational work—that which tends to give young men a good theoretical, scientific, and practical training for the successful management of country property and the conduct of a profitable farm, herd, orchard, or garden. I do not understand it to be the business of this college to train hewers of wood and drawers of water or make skillful ditchers, teamsters, plowmen, herdsmen, and shepherds, but to turn out men who can judge of and judiciously direct, all farming operations and broadly unite and manage all upon sound principles of science and practice. In the language of the

charter, this college, while not exclusively, is "to *especially* instruct in those arts and sciences indispensable to successful agricultural pursuits." Under the accepted national endowment "the leading object of the Maryland Agricultural College shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculculture and the mechanic arts." I suppose it was intended by the gentlemen who called me to the presidency of this institution to conduct here a *bona fide* agricultural college, and trust it is fully understood that I have no other wish in this connection. I avail myself of this first opportunity to say that whenever it shall appear to me that any doubt exists on this point or my efforts fail to secure the cordial and substantially unanimous support of this honorable Board, I shall promptly ask to be relieved. For the present, believing that we agree on this, I simply refer to the lack of confidence in the college, as an agricultural college, in times past and to its present somewhat unsatisfactory condition, as reasons why I must rely upon your Board for the most mature deliberation and the most cordial co-operation in order that the Maryland Agricultural College may meet the expectations of its founders and its subsequent friends, grow in public and private favor, become an important factor and a pride in the educational facilities of the State, and take high rank among the institutions of the land of like character.

The financial management of this institution, or rather its lack of such management, seems to have fully justified the severe criticism which has come from every quarter. Let me hope that the present financial condition and the proper remedies may be one of the subjects to receive the early and earnest attention of the Board of Trustees. There appears to have been at times and for considerable periods a scale of expenditure permitted quite disproportioned to the known income of the institution. Thus it has repeatedly been brought into debt; has in consequence sold portions of the estate, which never should have been parted with, and after having been more than once relieved from debt by State aid and otherwise, the college comes under my charge with unsettled outstanding obligations in various forms aggregating at least twelve thousand dollars. The debt itself is in a most unsatisfactory and annoying condition, and the current finances even more so. Compelled to anticipate income at a heavy discount to meet the incessant demands of creditors by temporizing settlements, the college treasury is in a chronic state of emptiness, and while old debts are being gradually reduced, new ones rapidly accumulate. The income from the land-grant fund, sacredly pledged by law and State covenants to the salaries of instructors and current educational expenses, and the payments by students for their board and clothing, are all disbursed according to the necessities of current demand, and mean-

time the professors, as well as the grocers, butchers, and students' clothiers, remain unpaid.

I do not believe this right and do not believe it is wise. Yet until some positive action is taken by this Board towards funding the debt and providing for current expenditures, there seems to be no escape, and great credit is due to the gentlemen of the Board who, as acting College President and acting treasurer, have, during the past year, carried the college treasury through a trying period, using their personal credit largely to sustain the college paper, which, although not formally authorized, has necessarily been put out in all directions. The thanks of the College are certainly due to these gentlemen for assuming responsibilities which they were under no obligation to carry. The responsibility is altogether greater than I am willing to continue, and I earnestly appeal to the Board for measures of relief which I deem entirely practicable. It may be readily understood that dealing, as we do, almost entirely on credit in making our current purchases, and having heavy accounts against us in several cases, we labor under great disadvantages and are pursuing a most wasteful policy. This is particularly noticeable in connection with the domestic department. On examination we find that on certain staple articles of supplies we are paying from ten to thirty per cent. more than would be necessary if we could buy for cash. After as careful examination of this subject as circumstances permit, I am brought to the rather startling conclusion that we lose by our present temporizing policy, besides the items of interest and discount, as much in every five or six months as the annual interest on a funded debt of $15,000. In short, by funding the debt, we can contribute nearly, if not quite, a thousand dollars a year towards a sinking fund to liquidate it without in the least curtailing our current purchases, but on the contrary securing all the advantages of a cash system.

Closely connected with the safe and businesslike conduct of the financial affairs of an institution like this is the careful examination and verification of accounts properly kept. Under the law it will be necessary to keep two distinct sets of accounts, that the affairs of the Experiment Station may not be confounded with those of the College. These books, accounts, and vouchers, should, it seems to me, be audited at least quarterly and monthly if possible, and stringent regulations enforced for keeping all disbursements within the legitimate income and the proper appropriations.

It seems probable that a body so large as the present Board of Trustees will not wish to burden itself, as a committee of the whole, with the details of the many matters which must necessarily be acted upon, and that in the interest of economy of time it will be deemed expedient to divide this body into working committees for the several departments and with more or less executive functions.

Accordingly I have the honor to recommend (in the place of all

existing committees) the appointment of four standing committees of five members each and an auditing committee of two, thus assigning special duties to every member. In detail, these recommendations are as follows:

1st. That a standing committee of five on Agriculture be appointed, to consist of the U. S. Commissioner of Agriculture, two members from the executive appointees (representing the agricultural interests of the State), and one member each on the part of the State and the private stockholders; that to this committee be referred all matters relating to the control and management of the college farm and the Agricultural Experiment Station, together with supervision of the special appropriations made for these departments.

2d. That a standing committee on Education be appointed, to consist of five members, one to be a representative of the stockholders, two on the part of the State, and two of the executive appointees; that to this committee be referred all matters connected with the faculty, course of study, discipline, conferring of degrees, facilities for instruction, issue of catalogues and advertisement of the college.

3d. That a standing committee on Finance be appointed, to consist of five members, two on the part of the State, two on the part of the stockholders, and one of the executive appointees; that to this committee be referred all matters relating to the general income and disbursements of the institution, the apportionment of the available funds to the several departments, the management and liquidation of the debt, and all subjects involving considerable expenditure.

4th. That an Auditing committee of two be appointed to examine, verify, approve, and certify to, all accounts and vouchers connected with the institution, quarterly and monthly if possible; the auditors to act singly or together.

5th. It is recommended in addition, that the Chairmen of the Committees on Agriculture, Education, and Finance, one of the auditors, and one other member, be appointed the Executive Committee, to act for the Board and its stead between its full meetings and in cases of emergency with full powers of the Board, subject to approval at the next meeting of the Board.

6th. That the President of the Board be *ex-officio* a member of all committees of the Board; that the College President, as provided in the by-laws for full board meetings, shall be invited to sit with the standing committees except when in executive session; that the Registrar may be called upon to attend and keep the records of the standing committees, and that three members shall constitute a quorum for business in any standing committee.

It is my hope that if the Board sees fit to appoint these committees, they will be able to meet and consider matters specially

prepared for them in time to report at the quarterly meeting on the 8th day of June next.

I will be prepared at any time hereafter to lay matters of importance before such committees. And if the full Board desires to now consider matters of detail, I will, although not fully prepared, endeavor to present such matters in form for action. In anticipation of the business to be considered by the Board or its committees, I have lately caused a complete inventory to be made of the movable property of the institution in all its various departments.

I also recommend the adoption of certain amendments to the by-laws of the corporation, which seem to be necessitated by the enlargement of the Board. These amendments will be suggested at the proper time. Furthermore, I desire, before the close of the meeting, to ask for action on certain matters of record in the proceedings of previous meetings of the Board.

Meeting thus assembled, for the first time, the duly authorized representatives of the public and private interests invested in this institution, organized as its regular Board of Trustees, I desire to express the full sense of responsibility I feel devolving upon me as the chief executive both of the college and the station and the need of active and earnest aid on the part of the members of this Board, individually and collectively, while assembled and while at their homes in the State and District, to sustain my administration of the institution and contribute to ultimate success, and I solicit your personal investigation and interest in the work progressing and your advice on all matters tending to advancement of what I trust may be called our common cause.

Very respectfully, your obedient servant,

HENRY E. ALVORD,
President of the Faculty.